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ABSTRACT

A supplement to National School Bus Minimum Standards contains standards that refer to equipment that must be part of the bus body or part of the chassis of a bus used to transport school children to and from school in Alaska. Standards of "activity" buses that are used to transport school children to and from authorized school activities are also listed. (MLF)

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MINIMUM STANDARDS

FOR

ALASKA SCHOOL BUSES

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Supplement to
National School Bus
Minimum Standards
1971 Revised Edition

EA 009 880

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MINIMUM STANDARDS
FOR
ALASKA SCHOOL BUSES

BUS BODY

Defrosters. Bus shall be equipped with defrosters sufficient to furnish hot air to entire windshield, the window to the left of the driver and the entrance door to keep them clear of condensation, ice and snow.

Equipment. Skid chains must be a part of the equipment and must be used under certain icy road conditions and as necessary.

Drivers shall carry tools, chains, and other miscellaneous articles in an appropriate compartment. Such gear shall not be carried loose upon the floor of the bus.

Material for cleaning the windshield and glass, and a broom for sweeping out the bus, should be included.

The first aid kit should be a Grade A metal first aid kit of Type II, minimum of sixteen (16) units, conforming to specifications as set forth in current Federal Specification GG-K 391A. The minimum requirements are:

Bandage compress (sterile gauze pads, 4")	2
Bandage compress (sterile gauze pads, 2")	1
Adhesive absorbent bandage (adhesive tape, 1")	2
Triangular bandage, 40"	1
Gauze bandage, 4"	1
Absorbent gauze compress	1
Burn compound, 1/8 ounce	2
Antiseptic applicators (swab-type)	2
Wire splints	1

Floors. The floor shall be of metal at least equal in strength to 14-gauge steel with an overlayer of 5-ply 5/8 inch plywood, exterior type, manufactured in accordance with CS45-55 or other applicable commercial standards. If wood is used for insulation, the following method is permissible:

The wood and the steel shall be bonded as to prevent accumulation of moisture on top surface of steel floor and under surface of wood floor.

Heaters. Heaters shall be capable of maintaining inside temperatures of between 35 and 40 degrees Fahrenheit at average minimum January temperatures as established by the U. S. Department of Commerce, Weather Bureau, nearest to the area served. The temperature is to be taken midway back in the bus at seated school children height.

CHASSIS

Axle. The axle specifications shall be as follows:

(a) Front axle or other type approved suspension assembly: Shall have a gross weight rating at the ground according to the chassis manufacturer's rating, equal to or exceeding 110% of that portion of the total load which is supported by the front axle or other type approved suspension assembly.

(b) Rear axle: Shall be of full-floating type and have a gross weight rating at the ground according to the chassis manufacturer's rating, equal to or exceeding 110% of that portion of the total load which is supported.

Generator or Alternator. All wiring will be of heavy gauge and capable of carrying the maximum amperage output under a continuous maximum amperage output load. (Note table for estimating Generator or Alternator Capacity on p. 21 of National Minimum Standards.)

Formula for Calculating Power and Gradeability

$$G = \frac{33750 \times H.P.}{G.V.W. \times M.P.H.} - 1.5$$ (for buses having seating capacity up to and including 67 pupils)

or

$- 1.2$ (for buses having seating capacity of 68 or more pupils)

Where G = Grade in percent

H.P. = Certified net horsepower delivered at road speed
G.V.W. = Gross vehicle weight (see table on page 26 of National Minimum Standards)

M.P.H. — Miles per hour vehicle is driven
Rolling Resistance = 1.5 or 1.2 (depending on seating capacity of bus)

Identification. For purposes of identification:

(a) School bus bodies, including hood, cowl, roof and fenders, with the exception of trim, shall be painted a uniform color, medium National School Bus Chrome, according to the National Bureau of Standards specification. Excepting top of hood may be painted black if there is a problem of glare.

(b) Body trim shall be black. (Chrome yellow to be designated by number 1305 and black by number 1775.)

(c) School bus bodies shall bear the words "SCHOOL BUS" in black letters on both the front and rear of the body. This lettering shall be at least eight (8) inches high and at least 3/4 inch stroke.

(d) There shall be a sign located below the rear window of the bus, reading, "Unlawful to Pass When Red Lights Flash." This sign shall be sixteen (16) inches by thirty-two (32) inches with black and red letters on a silver background. All material shall be of pressure sensitive reflective sheeting.

Identification Plate. A metal plate shall be secured directly on the right dash immediately forward of the entrance door of the bus upon which is stated the motor number, chassis weight, (ready for installation of body) and the legal seating capacity of the bus. Chassis weight, as shown on identification plate, shall be stamped on the right side of chassis frame under forward part of right front fender.

Insulation. Overhead ceiling, side walls and underfloor shall be insulated by a foamed-in-place insulation which shall form a low-density, non-combustible resilient plastic foam. The nominal K-factor shall be 0.2 at 70 degrees Fahrenheit. The space between the inner and outer panels in roof and side walls must be completely filled.

Body posts and roof channel cavities shall be insulated as above or by the use of a closed cell foam rubber material. Insulation material shall meet Federal Motor Vehicle Safety Standard No. 302 where applicable.

Underneath side of the floor including floor sills must be covered with the above type material to a minimum thickness of 3/4". If floor sill members are of boxed channel design, the ends shall be closed to form a dead air space.

Lamps and Signals. All school buses with a rated capacity of twenty-four (24) or more students shall be equipped with four (4) amber electric warning lamps, working in an automatic integrated system with the four (4) red lamps. The warning lights shall be of a type approved by the Department of Public Safety.

The amber lamps shall be installed:

(A) Two (2) front and two (2) rear, so that each lamp is located approximately six (6) inches below the top of the bus and as near the red lamp as possible. The amber lamps shall be on the same plane as the red lamps, or as close as possible, and closer to the center than the red lamps.

(B) The face of each lamp shall be in a true vertical and horizontal axis when the bus is on a smooth level surface.

The amber lamps shall be controlled by a switch located to the left of the driver within easy reach. Opening the entrance door shall cut off the amber lights and turn on the red lamps. Closing the entrance door shall cut off the red lamps and recycle the system automatically for the next stop.

A pilot light system shall be installed in a location where its operation shall be plainly visible to the driver.

Directional Signals. Each school bus shall be equipped with Class A, Type 1 amber turn signals that meet specifications of the Society of Automotive Engineers and have been approved. These signals must be mounted to conform to the following specifications:

(a) Each school bus shall be equipped with signal units giving signals to the front and to the rear and so arranged that front and rear signals will be given on the side toward which the turn is to be made.

(b) Signal units on the front and on the rear shall be spaced as far apart laterally as practicable but not less than three (3) feet.

(c) The location of the front signal units shall be such that they can be clearly distinguished when the headlamps are lighted.

(d) Signal units shall be mounted as high as practicable.

(e) Signal units shall be mounted so that the signal from the lamp is visible from directly ahead of the front lamps and directly behind the rear lamps to 45 degrees to the left and right.

(f) Within the horizontal angles specified, all signals shall be visible from 10 degrees above to 10 degrees below the horizontal.

(g) Signals shall be of the flashing type. The units shall flash no slower than 60 nor faster than 120 times per minute under average operating conditions. The "on" period of the flash shall be long enough to permit the bulb filaments to come up to full brightness.

(h) There shall be a visible or audible means of giving a clear and unmistakable indication to the driver that the signal system is turned "on."

Mirrors. Exterior convex mirror at 7 1/2 inches in diameter shall be located on the right- or left-hand front fender in such manner that seated driver may observe, through its use, areas to the front or side of bus where direct observation is not possible.

Windshield Wipers. Bus shall be equipped with two power-operated windshield wipers, each capable of clearing surface of not less than one hundred twenty (120) square inches. Wiper system shall be powered by air pressure or electricity (if electrical must be on a separate circuit) and capable of clearing the windshield under all conditions.

Buses Under 24 Passenger. Passenger cars of the regular two- (2-) seat type will be allowed for use as school buses dependent upon the number, age and size of pupils to be transported, but not more than eight (8) pupils may be transported in a vehicle of this type under any conditions.

Three- (3-) seat station wagons, carryalls, etc., may be used to transport up to ten (10) children or up to twelve (12) if all are small children in the lower grades who require less seat room. Microbuses may carry up to fifteen (15).

All the above types of vehicles when used as school buses must in addition to passing inspection by the State Highway Patrol, meet the following requirements:

(A) Must carry a sign, black letters at least four (4) inches high on a white background, both front and rear, stating, "SCHOOL BUS." This should be a Scotchlite material. Whenever vehicle is not being used as a school bus, the school sign must be removed or covered.

(B) Carry a first aid kit, flags and flares, hand axe, fire extinguisher, chains, and tow chain.

(C) Be equipped with directional turn signals.

(D) Must be hard-top vehicles.

(E) Have red flashing lights mounted on top of the vehicle. (They may be secured in a kit which straps on top of the vehicle in the same manner as a luggage rack.) In sparsely settled areas, exception to this regulation may be granted by the Commissioner of Education.

The only items listed on the Report of School Bus Inspection Form which these vehicles are specifically excepted from are:

(A) Body color—need not be school-bus yellow.
(B) Service door.
(C) Stanchion and guard rail.
(D) Emergency door.
(E) Stop arm.
(F) Amber warning lights.

Limousine-type vehicles, converted buses (elongated passenger cars), converted ambulances, small buses on special chassis, etc., will be permitted

for school bus use up to twenty (20) pupils, providing specific permission is granted by the Commissioner of Education after a full description of the proposed vehicle is submitted.

Such vehicles must meet the same requirements and will be granted the same exceptions from inspection as listed on page 6, *"Buses Under 24 Passenger"* paragraphs A, B, C, D and E.

ACTIVITY BUSES

Definition: A vehicle used to transport school children to and from authorized school activities and functions. These vehicles are used to transport school children on athletic trips, field trips, music festivals and other authorized school activities.

The following types of vehicles may be used as activity buses:

1. A regular school bus meeting all Minimum School Bus Standards of the State of Alaska.

2. A vehicle which meets satisfactory safety standards but is not required to meet all Minimum School Bus Standards. Note section Required Standards of Activity Bus Other Than Regular School Bus. (This vehicle cannot be used to transport school children to and from school.)

The "activity" bus is used to transport school children from school to destination and back without frequent stops along the highway to load or unload school children. For this reason, the activity bus does not have the flashing red warning lights and does not display school bus lettering. It does not have to be painted School Bus Chrome.

ACTIVITY BUSES WILL BE INSPECTED AT THE SAME TIMES AS SCHOOL BUSES.

REQUIRED STANDARDS
OF
ACTIVITY BUS OTHER THAN
REGULAR SCHOOL BUS

Brakes:

1. Four-wheel brakes, adequate at all times to control the bus when fully loaded, shall be provided.

2. Brakes shall comply with requirements of State of Alaska Motor Vehicle Laws.

3. Vehicles having full compressed air systems shall be equipped with:

   a. Air gauge mounted on instrument panel to register air pressure in air brake system.

   b. Visible or audible low pressure indicator to warn driver if air pressure in air brake system falls below 60 pounds per square inch.

Exhaust System:

1. Exhaust pipe, muffler, and tail pipe shall be outside bus body and attached to chassis.

2. Tail pipe shall extend to rear bumper.

Horn:

There shall be a horn or horns of standard make that meet requirements of the Alaska Motor Vehicle Laws.

Passenger Load:

Gross vehicle weight (i.e., wet weight, plus driver's weight of 150 pounds, plus weight of maximum seated school children load based on 100 pounds per school child) shall not exceed the maximum gross vehicle weight rating as established by the manufacturer.

Springs:

Springs shall be of ample resiliency under all load conditions and of adequate strength to sustain loaded bus without evidence of overload.

Steering Gear:

1. Steering mechanism shall provide for easy adjustment for lost motion.

2. Drag links, tie rod ends and connections or any other linkage or connections which might affect steering shall be kept in good mechanical condition and safe for operation at all times.

BODY

Construction:

1. Construction shall be all steel or other metal with strength at least equivalent to all-steel as certified by bus body manufacturer.

2. Construction shall provide a reasonably dustproof and watertight unit.

3. Floor shall be of metal at least equal in strength to 1/4 gauge steel.

4. A non-skid surface shall be applied to the floor.

Defroster:

Defrosters are required, and shall be of sufficient capacity to keep windshield clear of fog, ice, and snow.

Doors:

1. Service door shall be located on right side near the front of the bus.

2. Service door shall be power or manually operated and under control of the driver.

3. There shall be an emergency door in rear center or left side of bus or an escape window in the rear of bus.

First Aid Kit, Flags and Flares:

1. Each vehicle shall be equipped with a first aid kit. The kit shall be fully equipped with at least twenty-four (24) units consisting of the same materials as required for a school bus.

2. Each vehicle shall carry at all times three (3) red flags at least twelve (12) inches square and at least three (3) electric or reflector-type flares. These are to be displayed according to Alaska law in the event of a prolonged stop.

Fire Extinguisher:

All buses shall be equipped with at least one dry-chemical type fire extinguisher mounted in a substantial bracket. Extinguisher shall bear a label of Underwriter's Laboratories, Inc., showing rating of not less than 6-B:C. Where two extinguishers are mounted, their combined rating shall be not less than 6-B:C. Carbon tetrachloride or carbon dioxide extinguishers will not be permitted on buses.

Heaters:

1. At least one heater of the hot water or combustion type is required.

2. If combustion type heaters are used, they shall be installed outside passenger compartment by authorized dealers.

3. Heaters shall be capable of maintaining an inside temperature of at least 50 degrees Fahrenheit at average minimum January temperatures as established by the U. S. Weather Bureau for that area.

MISCELLANEOUS

Regulations for Resold School Buses:

Owners receiving used school buses are responsible for removing the district's name and number, all lettering, markings or characteristics that identify it as a school bus. An owner selling used buses to other than another operator shall be responsible for removing the operator's name and number, all lettering, markings or characteristics that identify it as a school bus. The new owner is responsible for repainting from school bus yellow to another color within 90 days from date of purchase.

Two Hook, Rear. Bus shall be equipped with one or two rear two hooks or two eyes secured to the chassis frame, back of the rear axle under the overhang of the body and shall not protrude beyond bumper. If two rear tow hooks or tow eyes are used, one may be attached to each frame side member. The rear frame cross members must be of sufficient strength to take weight of fully loaded bus in tow without distortion. The hooks or eyes shall be sufficiently strong to withstand pressures of towing fully loaded buses.

School Buses.

"School Bus" means any motor vehicle that:

is marked in the front and in the rear in letters eight (8) inches high or higher and of proportionate width, with the words "School Bus";

is transporting school children, with or without their instructors, to or from school or an authorized school activity or function or activities or functions under the sponsorship of the State Board of Education.

"Transportation" of "school children" means any students going to or from any school or authorized school activity or function under the sponsorship of the State Board of Education authorized to be transported by school bus.

Any vehicle used to transport school children which has a seating capacity of less than twenty-four (24) will be required to display a sign, black letters at least four (4) inches high on a white background, both front and rear, stating, "SCHOOL BUS."

MINIMUM STANDARDS FOR ALASKA SCHOOL BUSES

Cliff R. Hartman
Commissioner of Education

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